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IN THE
Supreme Court of the United States

OCTOBER TERM, 1984

NICOLET INSTRUMENT CORPORATION,
a Wisconsin corporation,
Petitioner,

v.

BIO-RAD LABORATORIES, INC.
a Delaware corporation,
Respondent.

Petition for a Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

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QUESTIONS PRESENTED

1. Whether in a patent case the trial court and the Court of Appeals for the Federal Circuit may defer to the jury's determination in a general verdict of the ultimate legal issue of validity rather than making an independent determination of the issue based on a review of the underlying evidence.

2. Whether it is error for the trial court to fail to employ special interrogatories setting forth the elements of factual inquiry underlying the determination of the legal issue of obviousness as set forth in this Court's decision in *Graham v. John Deere*.

3. Whether the trial court and the Court of Appeals for the Federal Circuit may rely upon presumed factual findings by the jury to support a jury general verdict of infringement where the claims of the patent in suit are subject to interpretation by the Court as a matter of law.

4. Whether lost profits may be awarded to plaintiff in a patent case where there has been no proof that the plaintiff's instrument is covered by the patent.

RULE 28.1 IDENTIFICATION OF SUBSIDIARIES (EXCEPT WHOLLY OWNED SUBSIDIARES) OF PETITIONER

Nicolet Instrument S.A. de C.V., Mexico.

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NICOLET INSTRUMENT CORPORATION,
a Wisconsin corporation,
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BIO-RAD LABORATORIES, INC.
a Delaware corporation,
Respondent.

PETITION FOR WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

Petitioner respectfully prays that a Writ of Certiorari issue to review the judgment and opinion of the United States Court of Appeals for the Federal Circuit (the "CAFC"), entered in this action on July 12, 1984, petition for rehearing *in banc* denied on August 10, 1984.

OPINIONS BELOW

The opinion (A-27)[1] and Erratum (A-52) of the panel of the CAFC below is at 739 F.2d 604, 222. The order of the CAFC denying the petition for rehearing (A-53) is unreported.

The Jury Form of Verdict (Patent) (A-15), the District Court's Final Judgment (A-19), Permanent Injunction (A-21), Order Suspending Injunction Pending Appeal (A-23), and Order Denying Defendant's Motions Under F. R. Civ. P. 50(b) and 59 for Judgment Notwithstanding The Verdict And In Alternative For A New Trial In Its Patent And Antitrust Cases, and Denying Defendant's Motion For The Court To Deny Enforcement Of The Patent In Suit Under The Doctrine of Patent Misuse (A-25) are all unreported.

JURISDICTION

The decision of the CAFC in this case was entered on July 12, 1984. An Order denying Nicolet's petition for rehearing and suggestion for rehearing *in banc* was entered on August 10, 1984. The jurisdiction of this Court is invoked pursuant to 28 U.S.C. § 1254(1) and Rule 17 of this Court's Rules.

CONSTITUTIONAL PROVISIONS AND STATUTES INVOLVED

Art. I, Section 8 of the United States Constitution provides in pertinent part:

> The Congress shall have Power . . . [8] To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the Exclusive Right to their respective Writings and Discoveries.

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[1] The pages of the Appendix are cited as "A-1, A-2 . . .".

35 U.S.C. § 102 provides in pertinent part:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication of this or a foreign country, before the invention thereof by the applicant for patent, or

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States, or . . .

35 U.S.C. § 103 provides in pertinent part:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences from the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

35 U.S.C. § 112 provides in pertinent part:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

STATEMENT OF THE CASE

Respondent, Bio-Rad Laboratories, Inc. ("Bio-Rad"), is the exclusive license under the only patent in suit, Patent No. 3,319,515 ('515 patent) for an "Interferometric Optical Phase Discrimination Apparatus" (A-1). It filed suit in June of 1981, charging petitioner Nicolet Instrument Corporation ("Nicolet") with infringement by its manufacture and sale of the MX-ECO, an infrared interferometer spectrometer used for measuring the thickness of epitaxial layers on silicon semiconductor wafers.

Jurisdiction was alleged pursuant to 28 U.S.C. § 1338 (a). Nicolet in its answer asserted that the patent was invalid and not infringed. It also filed antitrust counterclaims based on fraudulent procurement of the patent and bad faith enforcement of the patent.

The '515 patent discloses the use of an infrared interferometer for measuring thickness of fast moving thin film such as Mylar as it is being manufactured in a plant environment. The elapsed time occurring between zero order peaks in an interferogram is measured to provide a measurement of thickness directly from the interferogram without the necessity of doing a Fourier transform, a complicated mathematical operation of producing a spectrum from an interferogram. The interferogram is formed by constructive and destructive interference of infrared beams produced by oscillatory mirror movement to vary the path lengths of the beams reflected from the top and bottom surfaces of the moving film to provide only a single reading from each spot on the moving film.

The '515 patent claims a method for determining a physical property of a specimen on the basis of optical phase discrimination in which the steps are to be performed "in sequence" so that infrared radiation is directed first onto the specimen and then into the interferometer ('515 patent, col. 2, ll. 16-43). The device disclosed in the patent, a modification of a commercial interferometer, was supplied only to one customer for measuring moving film thickness but rapidly fell into disuse because of its inadequacies. No disclosure was made in the patent that the claimed method or apparatus could be useful in measuring the thickness of epitaxial layers.

Nicolet's allegedly infringing device, the MX-ECO, and the steps performed by it differ markedly from the device and method disclosed in the '515 patent. The MX-ECO measures the thickness of very thin epitaxial layers formed as an integral part

of silicon semiconductor wafers so that one surface of the epitaxial layer is exposed while the other is buried. Selected wafers are placed sequentially in a drawer in the MX-ECO in a control laboratory and held stationary while a measurement is made.

The sequence of steps used in the MX-ECO differs from those specified in the '515 patent. Infrared radiation is directed into an interferometer which uses a mirror to change the path length of the radiation and thereafter directs it onto the wafer so that reflections occur from the front exposed surface and the buried rear surface of the expitaxial layer. The spectral information obtained is supplied to a computer. A laser fringe counter supplies data points at each half wavelength to the computer. The computer performs first and second fast forward Fourier transforms on the spectral information to provide a spectrum and then a cepstrum which is calculated from the spectrum.

The computer analyzes only the cepstrum, using the data points to give a thickness reading which is typically based upon multiple readings on the same point in the stationary wafer. This differs from the method claimed by the '515 patent in which a single measurement is made at each point because the film is moving rapidly and in which the measurement is made by determining the elapsed time occurring between two zero order peaks in the interferogram.

Bio-Rad's instrument, the FTG-12, upon which the jury's award of damages for lost profits was based, also differs markedly from the device disclosed in the '515 patent. It was developed many years after the modified commercial interferometer disclosed in the patent had been developed and shortly after Bio-Rad had seen an instrument Texas Instruments had built for measuring the thickness of epitaxial layers on semiconductor wafers. In the FTG-12 infrared radiation is directed onto a stationary wafer and then into the interferometer. A thickness measurement is made without the use of any Fourier

transforms directly from the mirror distance traveled between zero order peaks of the interferogram.

Trial commenced on October 5, 1982. The case was submitted to the jury on December 21, 1982, which rendered its verdict on December 23, 1982. The form of the jury's verdict (A-16) was a general verdict holding each claim of the '515 patent valid and infringed. Underlying factual determinations were not revealed. The jury awarded money damages of $3,078,000 based on the proven sales revenue of the MX-ECO of only $3,402,681. It further found that Bio-Rad had not committed any antitrust violations nor misused the patent.

The trial court entered judgment on the jury's verdict on January 18, 1983. The Court made no independent review or determination with regard to the legal issues concerning patent validity or those related to infringement, as is revealed by reference to its brief two page order for judgment (A-19).

Nicolet subsequently filed a motion for Judgment Notwithstanding the Verdict And In The Alternative For A New Trial. On February 8, 1983, the Court filed its order denying these motions. The order contains no substantive discussion of any legal issues involved in the case. (A-25).

Nicolet then appealed to the CAFC. The CAFC rendered its decision on July 12, 1984, affirming the district court judgment, except with respect to the issue of prejudgment interest. In essence, the CAFC took the position that because there was some evidence to uphold the jury's verdict on the issues of validity and infringement, the trial court judgment would be affirmed. It specifically noted that there was no error inherent in submitting questions of law to a jury if the jury is adequately instructed. The CAFC took this position even though the legal issues concerning patent validity and the scope of the claims involved in this case were never decided by the trial court.

REASONS FOR GRANTING THE WRIT

This case illustrates the striking injustice that can befall an alleged infringer when patent issues related to highly sophisticated electronic instruments are tried to a jury, and the court abdicates its duty to decide key legal issues in the case. It also dramatizes the potential for capitalizing on possible confusion of the jury to overcome weaknesses in the position of those asserting claims because of the known propensity of juries to hold patents valid and infringed.[2] *See Dual Manufacturing and Engineering Co. v. Burris Industries, Inc.*, 202 U.S.P.Q. 708, 712 (1979) (Pell, J., dissenting), *en blanc rehearing*, 619 F.2d 660 (7th Cir.) (Pell, J., for the majority), *cert. denied*, 449 U.S. 870, *reh. denied*, 449 U.S. 1027 (1980); *see also* Committee on Patent Litigation, Section of Litigation, American Bar Association, *Patent Jury Trials, A Compendium* (November 10, 1979), Hoppe, *Observations of Trying Patent Cases – Jury*, at E-5 ("As a consequence in real life as we now see it, the jury verdict statistically is heavily overweighted in favor of validity and infringement") and Floyd, *Observations in Trying Patent Cases – Jury* pp. F-3, F-4 ("[T]he available evidence indicates that juries are much more kind to patentees than are judges . . . [A] review of the 28 jury cases reported in the United States Patents Quarterly for the years 1962-1977 reveals that the jury found the patent valid in 25 of them and infringed in 24"); Burton and Levison, *Plaintiff's Use of Juries in Patent and*

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[2] The jurors' lack of technical background made it likely that confusion would result in this case. The case required a knowledge of sophisticated mathematics, chemistry and physics. Of the nine jurors, only two had a college degree. One in bacteriology and one in landscape architecture. Another juror had studied physics, calculus, and chemistry in college. Most of the jurors only had mathematical training through high school algebra. No one on the jury had any background in electronics. All those who had some electronics in their background were removed by Bio-Rad's peremptory challenges.

Trademark Litigation, Intellectual Property Law Review 1978, 435, 441 ("An additional reason for preferring a jury in an infringement suit is the impact upon the jury of the various federally issued documents symbolizing plaintiff's property rights. The letters patent, especially, with its blue ribbon and red seal, is likely to impress the jury.").

This Court has made it clear that issues relating to patentability are to be decided as a matter of law. To give effect to this principle, a careful review must be made of the factual basis of a jury verdict of patent validity, particularly where as here the technology is very complicated and the propensity of a jury to find a patent valid and infringed is greatly increased. It is imperative that this Court exercise its authority to ensure compliance with the constitutional standards for patentability as well as to resolve conflicting positions between the various circuits and within the CAFC itself with regard to legal issues of patentability.[3] It is also important that this Court exercise its authority to provide guidance as to the form that the jury's verdict must take in a patent case. There has been a difference of opinion among the circuit courts on this issue and now have arisen between decisions of different panels of the CAFC.

The conflicts within the CAFC with respect to jury trials are particularly alarming because the CAFC is a new appellate court established on October 1, 1982. It appears to be floundering in its newly found responsibilities in the area of jury trial appeals, an area that is new to the CAFC. It clearly needs the direction of this Court in these formative years. This petition, as well as others now before this Court dealing with similar issues, pre-

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[3] That important issues related to jury trials of patent cases are in a current state of some confusion is evidenced by the petitions of certiorari filed with this Court seeking review of these issues. *See White v. Jeffrey Machinery Co.*, No. 83-1913 (May 22, 1984); *Railroad Dynamics, Inc. v. American Hoist and Derrick Co.*, No. 83-1827 (May 9, 1984); *Computervision Corporation v. The Perkin-Elmer Corporation*, No. 84-173. (July 30, 1984).

sents an opportunity for this Court to provide the necessary guidance to the CAFC on jury trial appeals so it, in turn, can give proper directions to the trial courts on how jury trials in patent cases should be conducted. This Court should also take this opportunity to clarify the important issue of federal law governing the right to an award of lost profits in patent cases where there is no proof that the patentee's product is covered by the patent.

I. THE CAFC'S FAILURE TO REQUIRE JUDICIAL DETERMINATION OF THE LEGAL ISSUE OF PATENT VALIDITY AND ITS FAILURE TO UNDERTAKE AN INDEPENDENT REVIEW OF THE RECORD TO DETERMINE THAT THE STANDARDS OF PATENTABILITY WERE MET ARE INCONSISTENT WITH THE DECISIONS OF THIS COURT AND OTHER DECISIONS OF THE CAFC.

This court has firmly established that patentability is a question of law of constitutional dimensions. *See Sakraida v. Ag Pro, Inc.*, 425 U.S. 273, 279-280 (1976); *Anderson's-Black Rock, Inc. v. Pavement Salvage Co.*, 396 U.S. 57, 61 (1969); *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966); *see also Roberts v. Sears, Roebuck & Co.*, 723 F.2d 1324, 1333-1334 (7th Cir. 1983). Because patents have the effect of granting a private monopoly, the standards of patentability must be applied.[4] *Graham v. John Deere Co., supra* at 6, 19; *Precision Instruments Mfg. v. Automotive Maintenance Co.*, 324 U.S. 806 (1945). Given the constitutional dimension of this inquiry, it has been made clear that no finding of fact can be a substitute for the legal determination of patentability. *Great A & P*

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[4]The CAFC apparently disagrees with this Court's well established characterization of patents as creating a monopoly. It characterizes a patent as merely a "property right" and criticized the district court's use of the term "patent monopoly" in *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1546 (Fed. Cir. 1983)

Tea Co. v. Supermarket Equipment Corp., 340 U.S. 147, 156 (1950) (Douglas J. and Black J. concurring); *Sarkisian v. Winn-Proof Corp.*, 688 F.2d 647, 651 (9th Cir. 1982).

On the issue of anticipation under 35 U.S.C. § 102, a two-step analysis is required: (1) the identity of the patented device, or method, as well as its scope, must be determined by the claims submitted to and allowed by the Patent Office, and (2) the patented device must be compared with the prior art reference. *Roberts v. Sears, Roebuck & Co., supra* at 1333. Construction of patent claims is a question of law. The issue of whether the prior art reference and the patented device and method are substantially identical is pure construction which can be ascertained from the Court's comparison of the description and drawings. *Roberts v. Sears, Roebuck & Co., supra* at 1333; *Super Products Corp. v. D.P. Way Corp.*, 546 F.2d 748, 756 (7th Cir. 1976).

Since anticipation is a matter of law, there were no factual issues for a jury to resolve. Nonetheless, the trial Court acquiesced in having the jury decide this issue and the CAFC likewise deferred to the jury. There has, therefore, never been a proper determination of this legal issue. If a determination had been undertaken, a conclusion that the patent was invalid, based on anticipation, would have been compelled.

A comparison of the work of Lowenstein, the prior art reference in this case, with the claims of the '515 patent demonstrate that every step and element called for in the claims can be found in Lowenstein. The only possible exception is a dependent Claim 6 which specifies that the interferometer is a Michelson interferometer, known for over 100 years. Using such an interferometer in the near infrared rather than a lamellar grating interferometer used by Lowenstein in the far infrared is such a minor substitution that it also would be included within the doctrine of anticipation. *Roberts v. Sears, Roebuck & Co., supra* at 1332. *Shelco, Inc. v. Dow Chemical Co.*, 446 F.2d

613, 614-15 (7th Cir.), *cert. denied*, 409 U.S. 876, 93 S. Ct. 125, 34 L.Ed 2d 129 (1972). Under the circumstances, it is apparent that juror confusion subtituted for a proper legal determination, thereby rendering the strict standard of patentability a nullity.

The question of obviousness under 35 U.S.C. § 103 has certain factual underpinnings, even though it is also ultimately a matter of law. *Sakraida v. Ag Pro, Inc.*, *supra* at 280; *Graham v. John Deere Co.*, *supra* at 17. Because of the constitutional dimension of the inquiry, this Court has required an independent evaluation of the underlying facts to make certain that the legal issue of patentability is properly decided. For example, in *Sakraida v. Ag Pro, Inc.*, *supra* at 280, this Court undertook an independent examination of the evidence before reaching its decision as to obviousness. While the Sakraida decision was informed by the basic factual inquiries noted in *Graham v. John Deere Co.*,[5] *supra*, the issue of obviousness in that case was ultimately decided as a matter of law. *Id.* Similarly, in *Graham v. John Deere Co.*, *supra* at 30-37, this Court undertook a careful review of the available evidence and found the subject matter of the claims of the patent was obvious from prior art.

Although this Court has not had the occasion to clarify the respective roles of the court and finder-of-fact in patent cases tried before juries, a number of circuit courts have determined that this Court's precedents require that the ultimate legal determination of patent validity is to be made as a matter of law by the court and not by the finder of fact. *See, e.g.*, *Automation Electronics Corp. v. Sanders Instruments, Inc.*, 704 F.2d 1133, 1133-34 (9th Cir. 1983); *Baumstimler v. Rankin*, 677 F.2d 1061, 1070 (5th Cir. 1982) (quoting *Graham v. John Deere Co.*, *supra* at 17); *Sarkisian v. Winn-Proof Corp.*, 688

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[5] The three part inquiry set forth in *Graham* is: 1) the scope and content of prior art, 2) the differences between the claims at issue and the prior art, and 3) the level of skill in the pertinent art. 383 U.S. at 17.

F.2d 647, 651 (9th Cir. 1982); *Dual Manufacturing & Engineering, Inc. v. Burris Industries, Inc., supra* at 666-67. A particularly thoughtful discussion of this issue was undertaken by the court in *Roberts v. Sears, Roebuck & Co., supra.* Based upon the patent act and this Court's decisions, the Seventh Circuit set forth the role of the jury and the court in determinations of patent validity. It noted that the tripartite factual inquiry set forth in *Graham* must be undertaken by the jury, but that the court was to draw inferences from those findings to reach the ultimate legal question of validity. *Id.* at 1335. Finding that the trial court had improperly allowed the jury to be the final arbitrator of the legal issue of patent validity, the appellate court reversed. *Id.* at 1343. *Accord, Automation Electronics v. Sanders Instruments, Inc., supra* at 1134.

In the present case, the CAFC took the position that there is no error inherent in submitting questions of law to the jury and obtaining a general verdict on validity, so long as the jury is adequately instructed (A-44). The CAFC's position is clearly in conflict with this Court's rulings, noted above, which require that the legal issue of validity be determined by the Court as a matter of law.

The CAFC's failure to require a proper legal determination of patentability was compounded by the standard of review it used. Because of the absence of any factual findings and the absence of a proper legal conclusion, the CAFC stated that it would presume the existence of factual findings and legal conclusions necessary to support the verdict of the jury (A-30). It then sought to find any record evidence which would support the jury's presumed findings and concluded that the jury's verdict should stand. In finding such record evidence, the court relied primarily upon the testimony of one of respondent's experts on the ultimate issue of obviousness (A-38). It stated that "Nicolet has not shown that reasonable jurors could not agree with [respondent's expert] that one of ordinary skill

in the art would not have derived the claimed invention after reading [the Lowewenstein prior art reference]." In essence, then, the CAFC deferred to the legal conclusions of respondent's expert and the jury's presumed agreement with those conclusions to uphold the jury's verdict on the ultimate legal issue of validity. No independent review of the record was undertaken. This method of review by the CAFC ignored the strict constitutional and statutory standard of patentability and makes any appeal from a general jury verdict of no avail.

The net effect of the CAFC's decision is that to this day there has not been a proper determination as a matter of law of the validity of the claims of the '515 patent. Exercise of this Court's supervision is necessary to ensure adherence to the law clearly expressed by this Court that determinations of patentability are to be made as a matter of law and to ensure that a reviewing court will not simply defer to the legal conclusions of a jury where the trial court has failed to exercise any independent judgment.

In addition to failure to adhere to the law set down by this Court, the CAFC has created confusion within its own decisions as to the role of the court and jury in a patent case. In contrast to the decision in the present case, another panel of the CAFC has specifically held that the reviewing court is to review the issue of obviousness, as "one of law on which it must exercise independent judgment." *Union Carbide Corp. v. American Can Co.*, 724 F.2d 1567, 1573 (Fed. Cir. 1984). It is apparent this Court's direction is needed to clarify the roles of the jury and the court in patent cases. Without clear delineation of these roles, there is a distinct danger that juries involving complex technology will take the easy way out and hold patents valid and infringed because of a failure to comprehend the issues. Juror misunderstanding must not be allowed to substitute for proper legal determinations of patentability required by the United States Constitution and federal law.

II. THE CAFC'S FAILURE TO REQUIRE SUBMISSION TO THE JURY OF THE FACTUAL MATTERS SET FORTH IN *GRAHAM V. JOHN DEERE CO.* BY SPECIAL INTERROGATORIES RESULTED IN FAILURE TO COMPLY WITH THE *GRAHAM* DECISION'S REQUIREMENT THAT FACTUAL INQUIRY BE UNDERTAKEN AND IS IN CONFLICT WITH OTHER OPINIONS OF THE CAFC AND OF OTHER CIRCUIT COURTS.

To assure that the factual underpinnings of a determination regarding the obviousness of invention under 35 U.S.C. § 103 may be meaningfully reviewed, a number of courts have insisted that the trial court employ special interrogatories setting forth the elements of the factual inquiry called for in *Graham v. John Deere Co., supra* at 17. *See, e.g., Roberts v. Sears, Roebuck & Co., supra* at 1341; *Baumstimler v. Rankin*, 677 F.2d 1061, 1071-1072 (5th Cir. 1982). In *Roberts v. Sears, Roebuck & Co., supra* at 1343, the court noted that placement of a general verdict label on a procedure that merely asks the jury to pass upon the ultimate legal question of validity based on general instructions in effect dispenses with the specific factual determinations called for in *Graham*. Thus, the court found that, by their own nature, general verdicts could not ensure that the factual inquiry mandated by *Graham* would be undertaken, and such verdicts could not be allowed to stand. *Id.*

The position of the CAFC on the issue of special interrogatories is, at best, confusing. A panel of the CAFC has recognized the desirability of special interrogatories on the underlying factual matters concerning patent validity and strongly implied that the failure to utilize special interrogatories would be found to be an abuse of discretion. *See American Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F.2d 1350, 1361 (Fed. Cir. 1984), *petition for cert. filed*, No. 83-1829 (May 9, 1984). The *American Hoist* court found special interrogatories were

necessary because, a district court may not solicit only a legal conclusion from the jury. *Id.* Other panels however, have reached different conclusions. For example, in *Railroad Dynamics, Inc. v. A Stucki Co.*, 727 F.2d 1506, 1517 (5th Cir. 1984), *petition for cert. filed*, No. 83-1839 (May 11, 1984), the court stated that failure to submit detailed factual interrogatories would not in every case result in the need for a new trial. In *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1547 (5th Cir. 1983), the court stated that the obviousness question should be submitted to the jury by a special detailed interrogatories, but did not state whether it was error to fail to do so.

It is apparent that without the requirement of special interrogatories detailing the jury's factual determinations, there can be no meaningful review of the issue of obviousness. The lack of any record of the jury's factual findings in the present case presents a situation where the appellate court has assumed that all factual issues were determined favorably to the verdict, thereby making the jury's general verdict virtually unassailable. (See A-30). This makes a nullity of the well established rule that improper fact finding may not substitute for a proper determination of patentability. *See Great A & P Co. v. Supermarket Equipment Co.*, *supra* at 156 (Douglas J. and Black J. concurring); *Sarkisian v. Winn Proof Corp.*, *supra* at 651. Only by requiring use of special interrogatories may the Court ensure that the trial court does not allow the jury to become the final arbitrator of patent validity by abdicating the responsibility to decide the matter as a question of law. The supervision and guidance of this Court is needed respecting this fundamental principle of patent law.

III. THE COURT IMPROPERLY RELIED UPON PRESUMED FACTUAL FINDINGS BY THE JURY WHERE THE CLAIMS OF THE PATENT WERE CLEAR AND SHOULD HAVE BEEN INTERPRETED BY THE COURT AS A MATTER OF LAW.

Both the trial court and the appellate court deferred completely to the jury's presumed interpretation of the scope of the claims of the patent and failed to make a determination of the scope of the claims as a matter of law. The issue, as presented and decided by the CAFC was "whether reasonable jurors, after reviewing all the evidence, could have interpreted the claims [of the patent] to include the sequence of events followed by the MX-ECO." (A-42). This is an erroneous standard because it has long been established that claim construction is a question of law for the judge and not a question of fact for the jury. *Coupe v. Royer* 155 U.S. 565, 574-5, (1895); Deller's *Walker on Patents*, 2nd ed., Vol. 4, § § 230, 231.

In concluding that the jury's interpretation of the claims was proper, the CAFC relied upon the testimony of one of the respondent's expert witnesses on the subject of claim construction. This was done even though the language of the claims was unambiguous.

Claim 1 of the patent required that certain steps be performed "in sequence." The sequence recited in the claim was the only one disclosed and described in the drawings and specification of the '515 patent. Other language in Claim 1 as well as language in Claim 5 included limitations which made it quite clear that the particular sequence called for required that the specimen precede the interferometer. Claim 1 is set forth below and has certain words underlined showing this limiting language.

> 1. A method for determining a physical property of a specimen on the basis of interferometric optical phase discrimination comprising, in sequence, directing analytical radiation upon said specimen along a course such that there is developed an optical phase difference between radiation emanating from a first radiation-reflective surface of said specimen and from a second radiation-reflective surface of said specimen, cyclically varying at a predetermined time rate the

length of the path of travel of said radiation emanating from a given one of the pair consisting of said first radiation-reflective surface of said specimen and said second radiation-reflective surface of said specimen, with respect to the length of the path of travel of the radiation emanating from the other of said pair over a span inclusive of a zero-order peak at which there exists constructive interference between said radiation emanating from said first radiation-reflective surface of said specimen and from said second radiation-reflective surface of said specimen, measuring the elapsed time existing between the scan traverse of said zero-order peak at which there exists said constructive interference and a preselected reference point synchronized in time with the cycle of said scan traverse, said preselected reference point being originally established in location by scanning said specimen through a span inclusive of a central zero-order peak, and determining said physical property of said specimen as a function of said elapsed time.

The above-underlined language, in addition to specifying that the steps be performed in sequence, requires directing the infrared radiation onto the specimen. The claim language then requires that the reflective radiation emanating from the first and second surfaces have their path lengths varied at a predetermined time rate which is performed by the interferometer. This claim language makes it clear that in Claim 1 the infrared radiation must impinge upon the specimen before it impinges upon the interferometer.

The respondent in fact agreed that the sequence of steps in the patent claims was different from that used in Nicolet's MX-ECO (A-42). In the MX-ECO, the interferometer spectrometer precedes the specimens. Nonetheless, the CAFC presumed that the jury interpreted Claim 1 to find that the words "in sequence", and the particular sequence with the specimen preceding the interferometer called for by Claims 1 and 5, could be disregarded.

Claims 1 and 5 of the patent included other express and unambiguous limitation which the CAFC ignored in its presumptions. One critical limitation specified that the physical property of the specimen, i.e., thickness, was to be determined as a function of elapsed time. The limitation was placed in the claims as originally drafted by the patent attorney to distinguish over the prior art Teeple patent which disclosed determining thickness by optical interference phenomena as a function of distance. The MX-ECO does not make thickness measurements by measuring elapsed time or distance. Rather, it measures the thickness of a specimen by analyzing the cepstrum and using data points therein to determine epitaxial layer thickness.

In upholding the jury's general verdict, the CAFC stated that it was reasonable for the jury to conclude "that the MX-ECO's mirror time of travel is functionally equivalent to the mirror distance travelled." (A-43). This conclusion, however, even if assumed to be true, is immaterial to the manner in which thickness is measured in the MX-ECO, and ignores express claim limitations and the plain meaning thereof.

The CAFC in its decision clearly disregarded the principle, long established by this Court, that where the scope of a claim is explicit, the patentee is bound by it. *Keystone Bridge Co. v. Phoenix Iron Co.*, 95 U.S. 274, 278 (1877). This Court, and appellate courts considering the matter, including at least one panel of the CAFC, have recognized that determination of the scope of the claims of a patent is a question of law unless there is some question as to the meaning of a term of art. *See Singer Manufacturing Co. v. Cramer,* 192 U.S. 265 (1904); *McGill, Inc. v. John Zink Co.*, 221 U.S.PQ. 944, 948 (Fed. Cir. 1984); *Super Products Corp. v. D.P. Way Corp., supra.* Indeed, one court has held that allowing the jury to interpret claims taints the entire decisional process. *Roberts v. Sears, Roebuck Co., supra* at 1339.

The CAFC's deference to the jury's presumed claim interpretation also violates another basic tenet of patent law that a claim cannot be interpreted broadly to make out a case of infringement without considering what effect a broad interpretation has on the validity of the claim *see Archal v. United States,* 621 F.2d 421, 428 (Ct. Cl. 1980) *cert. denied,* 448 U.S. 4077 (1981). The purpose of the claims is to precisely define the invention in view of the prior art and to inform the public of the patentee's rights in a specific invention and to "apprise the public what is still left open to them". *Continental Paper Bag Co. v. Eastern Paper Bag Co.*, 210 U.S. 405, 409, 52 L. Ed 1122 (1908) *Motion Picture Patents Co. v. Universal Film Mfg. Co.*, 243 U.S. 502, 61 L. Ed. 871, 876 (1917) Deller's *Walker on Patents,* 2nd ed. Vol. 5, p. 113. The language of the claims and the meaning of that language cannot be ignored or twisted in any direction desired. *See White v. Dunbar,* 119 U.S. 47 (1886).

The CAFC clearly violated this principle as revealed in the following language from its opinion:

> We conclude that reasonable jurors could conclude the claims simply require light to travel from a source to a detector in a manner that develops in an optical phase difference.

Such a broad reading of the claim by the CAFC is incredible in the view of the limitations in the claims which the CAFC has chosen to ignore. The particular sequence specified cannot be reordered in the face of clear and express limitations in the claims. Nor can a measurement based on elapsed time be magically converted into one based on distance or other techniques such as used by the MX-ECO whereby the scope of the claims is broadened to encompass the prior art, including the prior art which included the Teeple reference which measures film thickness as a function of distance.

The CAFC's statement that the jury may interpret the patent claims and that the court need not do so violates the well established law of ths Court and is in conflict with the other decisions of the CAFC. Exercise of this Court's supervision is necessary to ensure that claims are interpreted as a matter of law consistent with the grant of the patent monopoly. Insistence that the trial and appellate courts consider and decide legal issues in their domain is necessary to ensure that improper fact finding will not be a substitute for proper legal determinations.

IV. THE CAFC ERRONEOUSLY UPHELD AN AWARD OF DAMAGES FOR LOST PROFITS DESPITE THE LACK OF PROOF THAT RESPONDENT'S DEVICE WAS COVERED BY THE CLAIMS OF THE PATENT IN SUIT.

There was no proof that Bio-Rad's product, the FTG-12, was covered by the patent in suit. Nonetheless, the jury returned a verdict based on lost profits on lost sales on this instrument, which was upheld both by the trial court and the CAFC. Even though the issue was fully briefed before the CAFC, the questin of whether it was necessary for the respondent's product to be covered by the patent in suit before an award of lost profits may be recovered was not addressed by the CAFC in its opinion.

The question of lost profits in patent suits is one which has not received a great deal of attention in the case law, even though it is of vital importance in the trial of many patent cases. The general test for lost profits in a patent suit was set forth in the leading case of *Panduit Corp. v. Stahlin Bros. Fibre Works, Inc.*, 575 F.2d 1152, 1156 (6th Cir. 1978). The four-part test includes as its first component "demand for the patented product". This clearly implies that coverage of the plaintiff's product by the patent is an essential element of proof of lost profits. This principle was given effect in *Standard Mailing Machines Co. v. Postage Meter Co.*, 31 F.1d 459 (D.C.

Mass. 1929). There the court specifically held that where the plaintiff was in the market in competition with the defendant with a machine which did not embody the patented invention, the plaintiff could not recover damages on the theory of lost sales.

The decision of this Court in *Westinghouse Electric & Mfg. Co. v. Wagner Electric & Mfg. Co.*, 225 U.S. 604, 614-615 (1912), also strongly implies that unless the plaintiff's device is covered by the patent, no award of lost profits is appropriate. In *Westinghouse*, this Court noted that where a plaintiff's patent covers only part of a product and creates only part of the profits, the patentee is only entitled to recover the portion of profits attributable to the patent. *Id.; see also Velo-Bind, Inc. v. Minnesota Mining & Manufacturing Co.*, 647 F.2d 965, 973 (9th Cir. 1981) (damages may not be awarded for loss of sales of unpatented supplies to be used with patented products).

In view of the failure of the CAFC to apply the requirement that in order to recover lost profits a plaintiff must prove that its device is covered by the patent in suit, or even to consider arguments relating to this issue, it is apparent that the exercise of this Court's authority to clarify the matter is necessary. Such a review is all the more made necessary by the jury's outrageous award of lost profits of nearly $40,000 for each instrument which sold for only approximately $60,000.

CONCLUSION

For all the foregoing reasons, a writ of certiorari should be issued to the CAFC. This Court may then exercise its supervisory powers to ensure compliance with the rules of law to be applied in patent cases tried to juries, to resolve conflicts between decisions within the CAFC and between the CAFC and other courts of appeals with regard to fundamental issues arising in such cases, and to clarify important issues of law relating to damage awards in patent cases.

Respectfully submitted

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